

unrelated to information dissemination or stock or other financial trading, so much so that it should be considered unrelated art. MPEP 2141.01(a) Analogous and Nonanalogous Art states:

The examiner must determine what is "analogous prior art" for the purpose of analyzing the obviousness of the subject matter at issue. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the *field of applicant's endeavor* or, if not, then be *reasonably pertinent to the particular problem* with which the inventor was concerned." In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). See also In re Deminski, 796 F.2d 436, 230 USPQ 313 (Fed. Cir. 1986); In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992).

MPEP 2141.01(a) (emphasis added).

Guthrie et al. '372 is neither in the field of applicant's endeavor nor reasonably pertinent to the particular problem with which the inventor was concerned.

The Fields of Guthrie et al. '372 Are Unrelated.

Guthrie et al. describes its field of invention as "relat[ing] to equipment tracking systems and, more particularly, to an equipment tracking system that provides current and accurate configuration management information regarding the physical status of computer-related equipment." (Guthrie, column 1 line 5-9). Guthrie et al. can best be described as a device that deals with information *gathering*. Guthrie et al. describes a global equipment tracking system that provides configuration control over a plurality of pieces of equipment. The system has a plurality of sensors each coupled to individual pieces of equipment, a plurality of collectors each coupled to selected sensors for communicating with each of the sensors, a concentrator coupled to each collector for communicating with the plurality of collectors and for causing the collectors to transmit the sensor changes, a communication link, and a computer (mainframe) having a database coupled thereto and coupled to the concentrator through the communication link. The computer causes (prompts) the concentrators to transmit the stored sensor changes to the computer for storage in the database. (Guthrie, column 3, line 50 to column 4, line 39). Thus, a *gathering* of information is performed. This Application, however, deals with information *dissemination* and in a financial transaction setting. Clearly, the fields of Guthrie et al. and of this application are unrelated.

As additional support for this contention of nonanalogy, the Applicants note that the International and U.S classifications of the application do not coincide with that of Guthrie et al. MPEP 2141(a) states that "Patent Office classification of references and the cross-references in

the official search notes are some evidence of 'nonanalogy' or 'analogy' respectively . . . ."

Guthrie et al.'s international classifications are G06F 15/00 and G06F 7/04; its U.S. classifications are 364/403, 364/408, and 340/825.35. This application's international classification is G06F 17/60; its U.S. classifications are 705/36 and 705/35. Thus, this MPEP paragraph serves as a further methodology of supporting the determination that Guthrie et al. is nonanalogous.

Guthrie is Not Reasonably Pertinent to the Particular Problem With Which the Inventor was Concerned.

The Applicants recognize problems with precise, reliable, real time *dissemination* of information, e.g., missing quotes and slow quote speeds; system scalability; and, cost-effective delivery of information (stock quotes) to individual traders. Guthrie et al., however, recognized a different problem and solved it in a different manner. Guthrie et al. recognized that current and accurate configuration information was necessary to solve a problem of providing efficient engineering, installation and maintenance services where equipment is disbursed in many offices across many on-site and off-site facilities. (Guthrie, column 1, lines 14-19). Guthrie et al. sought to solve the problem via "current and accurate data *collection* [gathering] for all changes to the equipment configuration, to include detecting the change, reporting the change, and updating the change into a configuration management databases." (Guthrie, column 1, line 67 to column 2, line 4).

Thus, as Guthrie et al. is neither in the *field of applicant's endeavor* nor *reasonably pertinent to the particular problem* with which the inventor was concerned, it is not analogous art and therefore, cannot be relied upon. (See MPEP 2141.01(a)). As Sandhu et al., alone, does not disclose all elements of the Applicants' invention, the Examiner has failed to establish a *prima facie* case of obviousness for all the claims rejected as being unpatentable over Sandhu et al. in view of Guthrie et al.

No *Prima Facie* Case of Obviousness

Claims 1 and 5 are also nonobvious for alternative reasons. Even if Guthrie et al. was an allowable reference source, the Examiner has, nevertheless, failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991); *see also* MPEP 706.02(J). Because the Guthrie et al. patent is so unrelated to the Sandhu et al. patent, Applicants respectfully submit that the Examiner has clearly failed to provide any motivation or suggestion on why such a combination would even reasonably be made by a person skilled in this technology or art, as required by law

The Examiner states:

Sandhu et al. discloses a method and system for disseminating real-time information. Information is received from a provider of the information as a quote server (220, 230), the requested information is sent to a contact server (210), and the information is distributed to the user from the server. The information is financial information that includes stock quotes (column 4, lines 63-74). The quote server receives the information 'directly' from a source of the information (figure 1). Sandhu et al does *not* explicitly disclose determining if the information is being requested by a user, and where a provider is a field vendor.  
(Paragraph 7, Page 3-4 (emphasis added)).

The Examiner also states:

Guthrie et al. discloses determining if information is being requested by a user (column 13, lines 3-20).  
(Paragraph 7, Page 4)

The Examiner next expounds his rationale for combining references. The examiner states:

It would have been obvious to one of ordinary skill in the art to include determining if information is being requested by a user to Sandhu et al. because Guthrie et al. teaches problems with stale, inaccurate and incomplete databases being provided by mainframes (column 1, lines 10-39).

It would have been obvious to one with ordinary skill in the art to include a field vendor as a provider to Sandhu et al. because Guthrie et al. teaches that optional fields may be designated by a user (column 14, lines 36-37).  
(Paragraph 7, Page 4).

Applicants respectfully submit, however, that the Examiner has failed to meet the first element of a *prima facie* case for obviousness. First, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The Examiner has the burden of showing, as such, and has not met it here.

Neither Sandhu et al. nor Guthrie et al. recognize nor try to solve the problems with precise, reliable, real time *dissemination* of information, e.g., missing quotes and slow quote speeds; system scalability; and cost-effective delivery of information (stock quotes) to individual traders. Sandhu et al. recognized the need for a systematic method that enables institutional investors and financial institutions to seamlessly create, price, negotiate, execute, settle and analyze complex, capital market transactions, (Sandhu, column 2, lines 1-8), and recognized that trading services, which are geared towards individual investors, do not permit seamless integration with users internal or back-end systems for the creation and trading of customized transactions, (Sandhu, column 1, lines 37-49). Sandhu et al. sought to solve the problem via a system that includes servers, applications, and interfaces that enable users to interactively communicate and trade financial instruments among one another, and to manage their portfolios, (Sandhu, column 2, lines 15-19), and collector communications, (Sandhu, column 2, lines 19-27), and automated communications that enable connectivity with users internal, back-end systems to execute automated, straight-through processing, (Sandhu, column 2, lines 31-35).

Guthrie et al. recognized that current and accurate configuration information was necessary to solve a problem of providing efficient engineering, installation and maintenance services where equipment is disbursed in many offices across many on-site and off-site facilities. (Guthrie, column 1, lines 14-19). Guthrie et al. sought to solve the problem via current and accurate data *collection* [gathering] for all changes to the equipment configuration, to include detecting the change, reporting the change, and updating the change into a configuration management databases. (Guthrie, column 1, line 67 to column 2, line 4). Stated more succinctly, Guthrie et al. deals with automating the process of feeding equipment status on institutional personal computers and their peripherals to a mainframe database to provide for proper

configuration management. (Guthrie, column 1, lines 10-28). Clearly, neither reference teaches or suggests a faster or more efficient method of disseminating information to prevent missing quotes and slow quote speeds, nor does either reference try to solve similar or related problems. Thus, clearly, neither reference appears to suggest the other.

Not only is there nothing explicit in either of the two references that would suggest combining them, there is also nothing implicit suggesting combining the references, as the combined teachings, knowledge of one of ordinary skill in the art, and nature of the problem to be solved, as a whole, would not suggest doing so to those of ordinary skill in the art as is required in MPEP 2143.01 and *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). As can be seen by reviewing Applicants' "Background of the Invention," the Examiner has attempted to combine unrelated art with art that the Applicants have expressly stated as being insufficient, (Sandhu et al.). Fig. 1 of Sandhu et al. depicts a system similar to that shown in the application Fig. 1B as prior art that is limited in its capacity, i.e., Sandu et al. is representative of the problem the Applicants have solved. Also, the inapplicability of Guthrie has already been discussed. Additionally, neither of the two prior art references teach combining the references. The Examiner suggests it would have been obvious to one with ordinary skill in the art to include determining if information is being requested by a user to Sandhu et al. because Guthrie et al. teaches problems with stale, inaccurate and incomplete databases being provided by mainframes. However, nothing in Sandhu et al. suggests they have problems with tracking their equipment configuration or that they even store that kind of information. Additionally, Guthrie et al. had a goal, through automation, to take the user, other than the administrator, out of the loop in order to prevent erroneous information from being entered in the mainframe database. The combination of the two references is simply just too disjointed. Therefore, the combined teachings, knowledge of one of ordinary skill in the art, and nature of the problem to be solved, when properly taken for what each teaches as a whole, do not suggest combining the two prior art references, as the combination would not solve the Applicants' problem.

Second, even if the references somehow could be combined or modified, this still is not sufficient to establish a *prima facie* obviousness unless the prior art also suggests the desirability of the combination. MPEP 2143.01. Not only is there no suggestion as to the desirability of the combination, discussed above, but also the combination would not in fact improve dissemination other than to insure the equipment administrator for the Sandhu et al. system has accurate

equipment information in order to properly organize internal maintenance and upgrade procedures. Nothing in Guthrie et al. teaches determining if information is being requested by a user, as suggested by the Examiner. The Guthrie system is automated, and the only true user is a system administrator. (Guthrie, column 4, lines 39-54). Additionally nothing in Guthrie et al. teaches including a field vendor as a provider, as suggested by the Examiner. The Examiner's reference, column 14, lines 36-37, merely discloses that one of the data fields of the GETS database 12 may identify the equipment's vendor. In Guthrie et al., the provider of information is collector 19, which is clearly not a field vendor as defined by the Applicants.

Third, the Examiner's statement, alone, that it would have been obvious to modify Sandhu et al. to include determining if information is being requested by a user to Sandhu et al. and to include a field vendor as the provider to Sandhu et al., is insufficient to establish a *prima facie* case of obviousness. Even assuming a motivation and an ability to combine the references, MPEP 2143.01 states: "the fact that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness." And yet, nothing else has been shown by the Examiner.

The Examiner has also failed to meet the second element of a *prima facie* case for obviousness because there must be, and there is not in this present case, a reasonable expectation of success. Clearly, from the discussion above and a quick examination of the figures of the two references, one would realize that the combination of the two prior art references will not improve information dissemination, but merely produces a system that is more uniformly configured. Therefore, the second element of a *prima facie* case of obviousness has not been satisfied.

Finally, Applicants respectfully submit that the Examiner has failed to meet the third element of a *prima facie* case for obviousness which requires all claimed limitations be taught or suggested. The Examiner states that in Sandhu et al. a quote server (220, 230) receives information from a provider and the requested information is sent to a contact server (210), and the information is distributed to the user from the server. (Paragraph 7, page 3). The Applicants respectfully submit that the Examiner is mistaken. Sandhu et al. does not function in this manner. News and research server (210) merely provides a graphical user interface and applications that enable users to obtain real-time market data feeds and news services (220), as well as proprietary third-party data feeds (230). (Sandhu, column 4 lines 47-50). Sandhu et al. merely provides this

access through connections to the market data feeds and news services (220) and third party data feeds (230). (Sandhu, column 4, lines 47-53, and Fig. 1). There is no suggestion that as to a quote server-contact server type system arrangement or that the information is disseminated other than on a one-request, one-response basis as is the prior art methodology this application deems insufficient.

The Examiner additionally stated that Guthrie et al. discloses "determining if information is being requested by a user (column 13, lines 3-20) . . ." (Paragraph 7, page 4). Again, Applicants respectfully contend the Examiner is mistaken. The reference section the Examiner cited merely discusses the implementation of a POLECOL routine (131) which requests each collector (19) respond with any changes in equipment status or a good health status message, a VERYCKSM routine (132) which computes the checksum of the incoming data and verifies it against what was previously computed, a SENDACK routine (133) that sends an acknowledgment to the appropriate collector (19), a CALCKSM routine (134) that calculates the checksum on the data to be sent to and from the host computer 11, and a HOSTIF routine (135) that handles all modem controls and interprets incoming commands from the host computer (11), sends data to those computer (11) and after initial power up requests the phone number of the modem (27) of the host computer (11). (Guthrie, column 13, lines 3-20). Nothing in this reference, in the context of Applicants' claims, describes determining if information is being requested by a user.

The Examiner also stated that Guthrie et al. discloses "the provider is a field vendor (column 14, lines 30-40)." (Paragraph 7, page 4). Again, Applicants respectfully contend the Examiner is mistaken. As stated previously, the reference section the Examiner cited merely discusses that one of the data fields of the GETS database (12) may identify the equipment's vendor. In Guthrie et al., the field is a database field, whereas in the application, a field vendor is an intermediary, between the source of the stock quote and the quote server, which parses the data and multiplexes it to the quote server. These are two unrelated concepts. Therefore, Guthrie et al. does not disclose that the provider is a field vendor.

Therefore, Applicants respectfully submit that the Examiner has not established a *prima facie* case of obviousness because, as a minimum, he has neither shown that when combined, Sandhu et al. and Guthrie et al. teach or suggest all the claim limitations, nor has he shown some suggestion or motivation, either in Sandhu et al. and Guthrie et al. or in the knowledge generally

available to one of ordinary skill in the art, to modify the Sandhu et al. or to combine Sandhu et al. and Guthrie et al. teachings, as required in MPEP 2143.

Basic Tenets of Patent Law Are Not Adhered To

"When applying 35 U.S.C. 103, the following tenets of patent law must be adhered to: (A) The claimed invention must be considered as a whole; (B) The references must be considered as a whole and must suggest the desirability and thus the obviousness of making the combination; (C) The references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention; and (D) Reasonable expectation of success is the standard with which obviousness is determined." (MPEP 2141). The Applicants respectfully submit, however, that as a minimum, the Examiner has violated two of these tenants by not viewing Guthrie et al. as a whole and by using impermissible hindsight vision.

Guthrie et al. Was Not Considered For What It Teaches As a Whole

The Applicants respectfully submit that the Examiner did not take Guthrie et al. for what it teaches as a whole, but instead piecemealed selected portions in order to fill applicants' invention. This is clear from the fact that with regard to Guthrie et al., as discussed above, the Examiner misidentified the existence of the element of determining if information is being requested by a user, and misinterpreted the structure of a field in relation to a vendor. For example, recall that the Examiner's reference, column 14, lines 36-37, merely discloses that one of the data fields of the GETS database 12 may identify the computer equipment vendor and not a vendor if information as is the case for the application.

Impermissible Hindsight

The Applicants respectfully submit that the Examiner is using improper hindsight vision by using the present application as a road map to somehow improperly arrive at the claimed invention. Because the Guthrie et al. patent is so unrelated to the Sandhu et al. patent, the Applicants submit that the Examiner has merely extracted elements of Guthrie et al. to build the Applicants' invention. As previously discussed, there is nothing in the references or in the problems that they wished to solve that would provide to one skilled in the art the knowledge necessary (problem or solution) to build the applicants invention. MPEP 2145 states this to be an



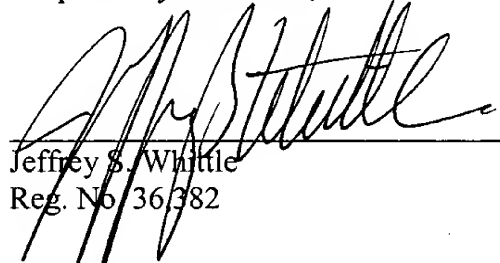
improper rationale for combining references. Thus, the combination of Sandhu et al. and Guthrie et al. is impermissible.

Accordingly, Claim 1 and Claim 5 has been shown to be allowable and define over the cited art. As Claims 1 and 5 have been shown to be allowable, Claims 2-4 and 6 as dependent upon Claim 1 and 5, respectively, have also been shown to be allowable and define over the cited art. Also, as the added claims have at least one of the elements of Claim 1 or Claim 5 shown to be nonobvious or depend on one having such element, the added claims are also allowable.

**CONCLUSION**

In view of the amendments and remarks set forth herein, Applicants respectfully submit that the application is in condition for allowance. According the issuance of a Notice of Allowance in due course is respectfully requested.

Respectfully submitted,

  
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**ATTACHMENT A**

**Marked-Up Version of Amended Specification (as of 11/21/2002)**

**IN THE TITLE:**

System and Methods for Disseminating Real Time Information [Contact Server].

**IN THE SPECIFICATION:**

[0002] The present invention [generally] relates to [a method for real time dissemination of information] data processing in general[,] and, in particular, [financial information] to a system and methods for disseminating information. [Still more particularly, the present invention relates to a method for delivering real time stock quotes.]

[0003] 2. Description of the Prior [Related] Art

[0004] It has long been recognized that accesses to timely information regarding current conditions in [the] various commodities and financial markets are [is] essential to [successful and] profitable trading and investment. Many complex investment strategies require precise and careful timing of specific transactions in response to fluctuating market conditions. This is particularly true in today's fast-moving markets where the ability to respond quickly to changing market conditions may mean the difference between substantial profits or devastating losses. Many investors rely heavily on real-time stock quotes when implementing their investment strategies[.], and most of those [These] investors get their real-time stock quotes from a brokerage company. Thus, [A] a successful brokerage company must be able to provide [up the second] stock quotes as accurately and efficiently as possible.

[0005] [Currently] Stock quotes are [obtained when] currently provided by stock exchanges, such as New York Stock Exchange, NASDAQ, [the New York Stock Exchange and all other exchanges send various stock quotes to]\_etc., to a field vender such as [SNP,] Bloomberg or Comstock. [The field vender collects the data from all the sources, parsers the data, and multiplexes it to a quote server application] After parsing the stock quote information received from the stock exchanges, the field vender then sends the stock quote information to a quote server [application] at a rate of about 1,000 to 2,000 packets per second. The quote server is typically located [in] at a regional brokerage office such as TradeCast or Merrill Lynch. The quote server has [its own] a database and keeps track of the history of each specific stock quote. If the stock quote is not in the database, the quote server adds the stock quote to the database. If the stock quote is already in the database, then the quote server updates the database. Next, the

quote server checks to see if a registered user has requested that particular stock quote. Most brokerage [houses] companies use a subscription based system. If one workstation or trader registers a particular stock quote, then every time the tick or quote comes in, the trader gets an update on that stock quote. If numerous customers are [looking] requesting [for] a stock quote[s] at the same time, then the [it] quote server will take[s] some time to send the [stock quote] requested stock quotes to all the requesting customers. [If this process takes too long, the system can miss some of the stock quotes from the field vender.] If the quote server spends more time delivering stock quotes, however, then the quote server must spend less time getting stock quotes. Thus, when the above-mentioned response time to the requesting customers takes too long, the quote server may miss some of the stock quotes sent by the field vender. As a result, investors may not have the most current stock quote information needed to make intelligent trading decisions.

[0006] [Currently, the system is a closed loop. If the system spends more time delivering stock quotes, then the system must spend less time getting stock quotes. This can cause the system to miss stock quotes and not have current data. When the quote is not current, investors do not have the reliable information needed to make split second decisions.]

[0007] [One solution is to make a cache to hold the data. However, a cache finite and if you make the cache to big then the customers are not going to get the latest quote or update. The goal is to optimize the processing.]

[0008] [Also, when new customers are added to the system, new quote servers must also be added. Currently, when 60-100 new customers are added, a new quote server must be added to ensure the system does not spend too much time delivering quotes and not enough time receiving quotes.]

[0009] [As a result there is a need for a way to optimize the system and make it quicker, more cost effective, and scalable.] Consequently, it would be desirable to provide an improved method to disseminate the information (deliver stock quote) to investors in real-time.

[0010] [It is therefore one object of the present invention to provide a method for improved precision and reliability for real time dissemination of information.]

[0011] [It is another object of the present invention to provide a method that can easily handle a large increase of users without having to substantially increase the number of servers.]

[0012] [It is yet another object of the present invention to provide a more cost effective method for delivering stock quotes to individual traders.]

[0013] [The foregoing objects are achieved as is now described.]

[0014] [According to one embodiment of the invention, a method for real time dissemination of information using a quote server to database and send requested information to a contact server and then using the contact server to send the requested information to users instead of one server receiving, data basing, and disseminating the information. By having to send the requested information only once, the quote server is able to spend more time receiving and data basing the information and less time distributing the information. This enables the system to serve 1,000-2,000 people per combination of the quote and contact server whereas the quote server alone can only serve approximately 60-100 people. The increase in capacity produced by the combination drastically reduces the number of machines needed and people required to operate and maintain the machines. Also, the increase in capacity allows for a large increase in users without having to increase the number of servers substantially.] In accordance with an embodiment of the present invention, quote information from a provider is received by a quote server. In response to a quote request from a user to a contact server, the contact server requests the quote request from the quote server. The quote server then sends a respective quote according to the quote request to the contact server. In turn, the contact server disseminates the quote to the user. By having to send the requested quote information only once, the quote server is able to spend more time in receiving quote information and less time in distributing the quote information. A contact server enables the system to serve 1,000 - 2,000 people per combination of the quote and contact server.

[0015] [The above as well as additional objectives] All objects, features, and advantages of the present invention will become apparent in the following detailed written description.

[0016] [The novel features believed characteristic of the invention are set forth in the appended claims.] The invention itself [however], as well as a preferred mode of use, further objects, and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying drawings, wherein:

[0017] Figure [1A] 1 [depicts] is a block diagram of a stock quoting system [utilizing the contact server in accordance with a preferred embodiment of the present invention] according to the prior art;

[0018] Figure [1B] 2 is a block diagram of a stock quoting system [commonly used] in accordance with a preferred embodiment of the present invention; and

[0019] Figure [2A] 3 is a flow chart of a stock quoting system [utilizing the contact server in accordance with a preferred embodiment of the present invention.] according to the prior art;

[0020] Figure [2B] 4 is a flow chart of a [stock quoting system commonly used] method for delivering stock quotes in real-time utilizing the stock quoting system in Figure 2, in accordance with a preferred embodiment of the present invention.

[0021] [With reference] Referring now to the [figures] drawings and in particular [with reference] to Figure 1, there is shown a block diagram of a stock quoting system [utilizing the contact server in accordance with a preferred embodiment of the present invention] according to the prior art. As shown, a stock quoting system 10 includes a quote server 13 and a database 14. Generally, stock quotes are sent from a source of stock quote 11 to a field vendor 12 and then to quote server 13. Source of stock quote [002] 11 [can be any exchange that generates stock quotes] are typically stock exchanges, such as [the] New York Stock Exchange, NASDAQ, etc. [Source 102 send the stock quotes to field vender 104. Vender 104 parsers the data and multiplexes it to quote server application 106 at a rate of about 1,000-2,000 packets or stock quotes per second. Quote server 106 is located in a regional brokerage office such as TradeCast or Merrill Lynch. Quote server 106 can be any type of server capable of receiving and transmitting information. As shown in step 204, quote server 106 checks to see if the data is a valid stock quote. Quote server 106 contains database 108. Database 108 keeps track of the history of each specific stock quote. If a quote for a particular stock is not in database 108, quote server 106 must add it. If the stock quote is already in database 108, quote server 106 must update database 108. Then, as shown in step 208, quote server 106 checks to see if contact server 110 is requesting the particular stock quote. If so, then quote server 106 sends the stock quote to contact server 110. As shown in step 212, contact server 110 sends the quote to all

trader 112s who have requested that particular stock quote. If no trader 112 has requested a particular stock quote, then contact server 110 does not request that particular quote from quote server 106.] Field vender 12 are trading vendors such as Bloomberg or Comstock. Stock traders can request stock quotes from quote server via trading stations 15a-15n. In response to a stock quote request, quote server 13 would send a stock quote to a corresponding one or more of trading stations 15a-15n. Because stock quoting system 10 is a closed system, quote server 13 has to finish sending stock quotes to trading stations 15a-15n before quote server 13 can perform other important functions such as reading data from field vender 12. In other words, if quote server 13 spends more time delivering stock quotes, then quote server 13 has to spend less time obtaining stock quotes. As a result, quote server 13 may miss a stock quote (or data packet) from field vender 12. Because quote server 13 does not have the most current stock quote, database 14 could not be updated, and a trader would not have the most current stock quote information needed to make intelligent trading decisions.

[022] [This is a vast improvement over the old system shown in FIG. 1B. In the old system, when hundreds of trader 112s would request a stock quote, quote server 106 would have to send each trader 112 the stock quote, shown in steps 208 and 214. Because the system was a closed system, quote server 106 would have to finish sending each trader 112 a stock quote before it could move on to step 202 and read the data from field vender 104. The system would spend more time delivering stock quotes, and less time obtaining stock quotes. Often quote server 106 would be delayed and therefore miss a stock quote or data packet from field vender 104. Because quote server 106 did not have the most current stock quote, the database could not be updated and trader 112 would not have the reliable data needed to make split second decisions.] With reference now to Figure 2, there is shown a block diagram of a stock quoting system in accordance with a preferred embodiment of the present invention. As shown, a stock quoting system 20 includes a quote server 23, a database 24 and a contact server 26. Stock quotes are sent from a source of stock quote 21 to a field vender 22 and then to quote server 23. Source of stock quote 21 can be any exchange that generates stock quotes similar to source of stock quote 11 depicted in Figure 1. Field vender 22 parsers the information and multiplexes it to quote server 23 at a rate of approximately 1,000 - 2,000 stock quotes (or packets) per second. Quote server 23 can be any type of server capable of receiving and transmitting information, and is located in a regional brokerage office such as TradeCast or Merrill Lynch. Quote server 23 is coupled to database 24 that keeps track of the history of each specific stock quote. If a quote for a particular stock is not in database 24, quote server 23 will add the missing stock quote to database 24. If the stock quote is already in database 24, quote server 23 will update database 24

with the latest information. Stock traders can request stock quotes from contact server 26 via trading stations 25a-25n. Contact server 26 may be, for example, a workstation, a mid-range computer or a mainframe computer. In addition, contact server 26 may be coupled to a network such as a local-area network (LAN) or a wide-area network (WAN). In response to a stock quote request, contact server 26 would send a stock quote to a corresponding one or more of trading stations 25a-25n.

Referring now to Figure 4, there is illustrated a flow chart of a method for delivering stock quotes in real-time utilizing stock quoting system 20, in accordance with a preferred embodiment of the present invention. After data has been received by a quote server, as shown in block 31, a determination is made by the quote server as to whether or not the received data is a valid packet, as depicted in block 32. If the received data is a valid packet, the received data will be stored in a database coupled to the quote server, as shown in block 33. Otherwise, the received data will be discarded or ignored. Then, the quote server checks to see if a contact server is requesting a particular stock quote, as shown in block 34. If the contact server is requesting a stock quote, the quote server sends the stock quote to the contact server, as depicted in block 36. The contact server may send the stock quote to all traders who have requested that particular stock quote. If no trader has made a stock quote request, then the contact server does not request any stock quote from the quote server. By comparison, Figure 3 illustrates a flowchart according to the prior art where hundreds of traders would request a stock quote whereby quote server 13 would have to send each trader the stock quote, shown in steps 34 and 35.

[0023] [Those skilled in the art will appreciate that the present invention is capable of being implemented in a variety of forms. While the invention has been particularly shown and described with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention.] As has been described, the present invention provides an improved method for delivering stock quotes in real-time. Because the quote server sends a stock quote to the contact server only when a stock quote request has been made from a trader via the contact server, the quote server is not burdened with the responsibility of delivering stock quotes for each stock quote request. As such, the quote server can dedicate more processing for receiving new stock quote information from a field vendor.

It is also important to note that although the present invention has been described in the context of a fully functional computer system, those skilled in the art will appreciate that the

mechanisms of the present invention are capable of being distributed as a program product in a variety of forms, and that the present invention applies equally regardless of the particular type of signal bearing media utilized to actually carry out the distribution. Examples of signal bearing media include, without limitation, recordable type media such as floppy disks or CD ROMs and transmission type media such as analog or digital communications links.

While the invention has been particularly shown and described with reference to a preferred embodiment, it will be understood by those skilled in the art that various changes in form and detail may be made therein without departing from the spirit and scope of the invention.



**Attachment A**  
**Marked-Up Version of Amended Claims (as of 11/21/2002)**

**IN THE CLAIMS:**

2 →  
1. (Amended). A method for disseminating real time information comprising the steps of:  
receiving the information from a provider of the information by a quote server;  
determining if the information is being requested by a user;  
sending the requested information to a contact server; and  
distributing the information to the user from the contact server.

4-6 →  
3. (Amended) The method of claim 1 wherein the information is stock quotes.

7. (Added) The method as defined in Claim 3, wherein:

the step of determining if the information is being requested by a user is accomplished by  
the quote server determining if the contact server is requesting a particular stock quote; and  
the step of sending the requested information to the contact server is accomplished by the  
quote server sending the requested information to the contact server.

8. (Added). The method as defined in Claim 7, wherein the contact server is a workstation.

9. (Added) The method as defined in Claim 7, wherein a database is associated with the quote  
server, and the method further comprises tracking the history of each particular stock quote using  
the database.

10. (Added) The method as defined in Claim 9, further comprising:

receiving the particular stock quote;  
determining if the particular stock quote is in the database;  
adding the particular stock quote to the database if the particular stock quote is not in the  
database; and  
updating the database if the particular stock quote is already in the database.

11. (Added) The system as defined in Claim 5, wherein the information is stock quotes.

12. (Added) The system as defined in Claim 11, further comprising a database associated with the quote server and positioned to track the history of each particular stock quote, and wherein the quote server further determines if the particular stock quote is in the database, adds the particular stock quote to the database if the particular stock quote is not in the database, and updates the database if the particular stock quote is already in the database.

13. (Added) A system for disseminating real time information comprising:

a quote server positioned to receive stock quote information from a provider;

a contact server, positioned to request a stock quote from the quote server, responsive to the stock quote request being requested by a user;

means associated with the quote server and responsive to the stock quote request for sending a stock quote to the contact server; and

means associated with the contact server for disseminating the stock quote received from the quote server to at least one user.

14. (Added) The system as defined in Claim 13, wherein the provider is a field vender.

15. (Added) The system as defined in Claim 13, wherein the contact server is a workstation.

16. (Added) The system as defined in Claim 13, further comprising a database associated with the quote server and positioned to track the history of each particular stock quote, and wherein the quote server further determines if the particular stock quote is in the database, adds the particular stock quote to the database if the particular stock quote is not in the database, and updates the database if the particular stock quote is already in the database.